--11. A method of gasifying combustibles, said method comprising:

gasifying said combustibles in a combustion region of a fluidized-bed furnace;

recovering heat from said gasifying in a heat recovery region of said fluidized-bed furnace; and

controlling a rate of said recovering in said heat recovery region.

12. A method as claimed in claim 11, wherein said fluidized-bed furnace has therein a fluidized medium, said combustion region and said heat recovery region are separated by a partition wall and are connected above and below said partition wall, said combustion region includes first and second areas adjacent to each other, and further comprising:

supplying a first fluidizing gas as an upward flow into said first area, supplying a second fluidizing gas as an upward flow into said second area, and supplying heat recovery region fluidizing gas to said heat recovery region;

controlling a mass flow of said first fluidizing gas to be smaller than a mass flow of said second fluidizing gas to create in said first area a moving bed where said fluidized medium descends and is dispersed and to create in said second area a fluidized bed where said fluidized medium is intensely fluidized, whereby said combustibles are gasified into a combustible gas in said combustion region while circulating therein with said fluidized medium; and

flowing fluidized medium from said combustion region over said partition wall into said heat recovery region, and returning fluidized medium in said heat recovery region to said combustion region; and

said controlling comprises adjusting said supplying said heat recovery region fluidizing gas to said heat recovery region.

13. A method as claimed in claim 12, further comprising regulating a temperature in said fluidized-bed furnace.

14. A method as claimed in claim 13, wherein said regulating comprises, as a primary temperature control, controlling a temperature in said combustion region by adjusting said supplying said first fluidizing gas to said first area and said supplying said second fluidizing gas to said second area, and, as an auxiliary temperature control, controlling a temperature in said heat recovery region by said adjusting said supplying said heat recovery region fluidizing gas to said heat recovery region.

15. A method as claimed in claim 13, wherein said regulating comprises, as an auxiliary temperature control, controlling a temperature in said combustion region by adjusting said supplying said first fluidizing gas to said first area and said supplying said second fluidizing gas to said second area, and, as a primary temperature control, controlling a temperature in said heat recovery region by said adjusting said supplying said heat recovery region fluidizing gas to said heat recovery region.

16. A method as claimed in claim 11, wherein said fluidized-bed furnace has a substantially circular cross-sectional shape and has therein a fluidized medium, said combustion region comprises a circular central region, said heat recovery region comprises an outer peripheral region, said combustion region and said heat recovery region are separated by a partition wall and are connected above and below said partition wall, said combustion region includes central and peripheral areas adjacent to each other, and further comprising:

supplying a central fluidizing gas as an upward flow into said central area, supplying a peripheral fluidizing gas as an upward flow into said peripheral area, and supplying heat recovery region fluidizing gas to said heat recovery region;

controlling a mass flow of one of said central fluidizing gas and said peripheral fluidizing gas to be smaller than a mass flow of the other of said peripheral fluidizing gas and said central fluidizing gas, to create in one of said central area and said peripheral area a moving bed where said fluidized medium descends and is dispersed and to create in the other of said peripheral area and said central area a fluidized bed where said fluidized medium is intensely fluidized, whereby said combustibles are gasified into a combustible gas in said combustion region while circulating therein with said fluidized medium; and

flowing fluidized medium from said combustion region over said partition wall into said heat recovery region, and returning fluidized medium in said heat recovery region to said combustion region; and

said controlling comprises adjusting said supplying said heat recovery region fluidizing gas to said heat recovery region.

17. A method as claimed in claim 16, further comprising regulating a temperature in said fluidized-bed furnace.

18. A method as claimed in claim 17, wherein said regulating comprises, as a primary temperature control, controlling a temperature in said combustion region by adjusting said supplying said central fluidizing gas to said central area and said supplying said peripheral fluidizing gas to said peripheral area, and, as an auxiliary temperature control, controlling a temperature in said heat recovery region by said adjusting said supplying said heat recovery region fluidizing gas to said heat recovery region.

19. A method as claimed in claim 17, wherein said regulating comprises, as an auxiliary temperature control, controlling a temperature in said combustion region by adjusting said supplying said central fluidizing gas to said central area and said supplying said peripheral fluidizing gas to said peripheral area, and, as a primary temperature control, controlling a temperature in said heat recovery region by said adjusting said supplying said heat recovery region fluidizing gas to said heat recovery region.

20. A method of treating combustibles, said method comprising:

gasifying said combustibles in a combustion region of a fluidized-bed furnace, thus generating combustible gas and non-combusted particles;

recovering heat from said gasifying in a heat recovery region of said fluidized-bed furnace;

controlling a rate of said recovering in said heat recovery region; and

delivering said combustible gas and non-combusted particles to a melt combustion furnace and therein combusting said combustible gas and melting non-combustible ash of said non-combusted particles.

21. An apparatus for gasifying combustibles, said apparatus comprising:

a fluidized-bed furnace having a combustion region for gasifying the combustibles and a heat recovery region for recovering heat from said gasifying; and

a heat recovery surface for controlling a rate of said recovering in said heat recovery region.

22. An apparatus as claimed in claim 21, wherein said fluidized-bed furnace has therein a fluidized medium, said combustion region and said heat recovery region are separated by a partition wall, said combustion region includes first and second areas adjacent to each other, and further comprising:

an air diffusion device to supply a first fluidizing gas as an upward flow into said first area, to supply a second fluidizing gas as an upward flow into said second area, and to supply heat recovery region fluidizing gas to said heat recovery region, said air diffusion device being structured such that a mass flow of said first fluidizing gas is smaller than a mass flow of said second fluidizing gas to create in said first area a moving bed where said fluidized medium descends and is dispersed and to create in said second area a fluidized bed where said fluidized medium is intensely fluidized, whereby said combustibles are gasified into a combustible gas in said combustion region while circulating therein with said fluidized medium; and wherein

said combustion region and said heat recovery region are connected above and below said partition wall, to allow fluidized medium from said combustion region to flow over said partition wall into said heat recovery region;

said heat recovery surface comprises a member in said heat recovery region for a medium to pass therethrough; and

said air diffusion device includes a heat recovery region air diffuser at a bottom of said heat recovery region, said heat recovery air diffuser being structured to adjust the supply of said heat

recovery region fluidizing gas to said heat recovery region to cause the fluidized medium in said heat recovery region to descend therein as a moving bed and to circulate therefrom below said partition wall back to said combustion region.

23. An apparatus as claimed in claim 21, wherein said fluidized-bed furnace has a substantially circular cross-sectional shape and has therein a fluidized medium, said combustion region comprises a circular central region, said heat recovery region comprises a peripheral region, said combustion region and said heat recovery region are separated by a partition wall, said combustion region includes central and peripheral areas adjacent to each other, and further comprising:

an air diffusion device to supply a central fluidizing gas as an upward flow into said central area, to supply a peripheral fluidizing gas as an upward flow into said peripheral area, and to supply heat recovery region fluidizing gas to said heat recovery region, said air diffusion device being structured such that a mass flow of one of said central fluidizing gas and said peripheral fluidizing gas is smaller than a mass flow of the other of said peripheral fluidizing gas and said central fluidizing gas to create in one of said central area and said peripheral area a moving bed where said fluidized medium descends and is dispersed and to create in the other of said peripheral area and said central area a fluidized bed where said fluidized medium is intensely fluidized, whereby said combustibles are gasified into a combustible gas in said combustion region while circulating therein with said fluidized medium; and wherein

said combustion region and said heat recovery region are connected above and below said partition wall, to allow fluidized medium from said combustion region to flow over said partition wall into said heat recovery region;

said heat recovery surface comprises a member in said heat recovery region for a medium to pass therethrough; and

said air diffusion device includes a heat recovery region air diffuser at a bottom of said heat recovery region, said heat recovery air diffuser being structured to adjust the supply of said heat recovery region fluidizing gas to said heat recovery region to cause the fluidized medium in said heat

recovery region to descend therein as a moving bed and to circulate therefrom below said partition wall back to said combustion region.

24. An apparatus for treating combustibles, said apparatus comprising:

a fluidized-bed furnace having a combustion region for gasifying the combustibles, thus generating combustible gas and non-combusted particles, and a heat recovery region for recovering heat from said gasifying;

a heat recovery surface for controlling a rate of said recovering in said heat recovery region; and

a melt combustion furnace for receiving the combustible gas and the non-combusted particles and for combusting the combustible gas and melting non-combustible ash of the non-combusted particles.--

REMARKS

In view of the above amendments and the following remarks, reexamination and reconsideration are requested.

Editorial amendments have been made to the specification and abstract.

The previous claims have been replaced by new claims 11-24. Regarding the newly presented claims, attention is directed to the following.

The newly presented claims have been drafted to ensure compliance with the requirements of 35 U.S.C. 112. It particularly is submitted that each of the objections raised in the formal rejection of paragraph 2 spanning pages 2-5 of the Office Action have been obviated. Accordingly, it is submitted that the newly presented claims are in proper form.

It is noted that the Examiner rejected previous claims 1-8 under 35 U.S.C. 103 as being unpatentable over Hirayama in view of Japanese 321. The Examiner rejected previous claims 2-7 and 9-10 under 35 U.S.C. 103 as being unpatentable over such references, further in view of Japanese 362.